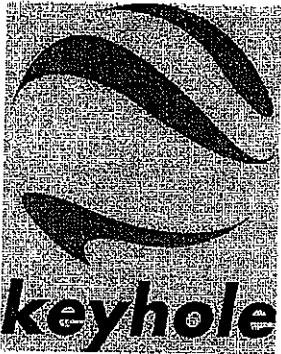
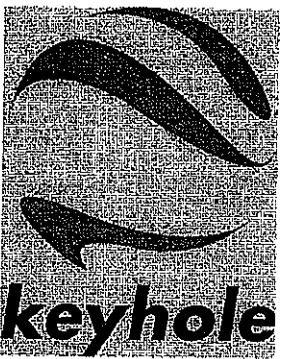


EXHIBIT 13
PP. 1-29

Using Keyhole 2 PRO/EC

Version 2.2





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Using Keyhole 2 PRO/EC

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1

Getting Started

Thank you for purchasing Keyhole 2. With Keyhole, your computer becomes a window to anywhere on the planet, accessing Terabytes of aerial and satellite imagery, elevation data, street-level data, business listings, and more! You have access to the complete image library, including 15-meter resolution across the entire U.S. as well as high-resolution images for more than 80 U.S. and International cities and sites.

Keyhole Pro or EC users can use the expanded suite of Keyhole tools intended for business and professional use. Real estate, civil planning, travel, and government professionals can use the measuring tools to calculate distances and perimeters, print high-resolution imagery, or get an address of a location simply by clicking on it.

This document covers everything you need to know to install and run Keyhole, including:

- Keyhole interface
- Going to addresses and navigating
- Saving and sharing places
- Printing
- Adding your own data

and more.

Setting up Keyhole to run on your computer involves three basic steps:

1. Make sure your computer meets the minimum system requirements.
2. Make sure you have your License Key (Passport ID) ready.
3. Install Keyhole.

Your System Requirements

The Keyhole client requires certain system configurations in order to run smoothly. This section covers the necessary configurations for your computer and its graphics card. See **Table 1** for the minimum requirements for your system:

Table 1: Minimum System Requirements

Operating System	Windows XP, Windows 2000, Windows 98*, Windows ME* (*See release notes for your Keyhole client; Windows 98 and Windows ME is not supported for some versions of Keyhole 2.)
CPU (central processor) Speed	Intel® Pentium® III 500 MHz or AMD equivalent
System Memory (RAM)	128MB (512 MB recommended)
Hard-disk Space	200MB
Graphics Card Memory	16 MB (32 MB recommended) on the graphics card
Internet Access Speed	ISDN, DSL, or Cable internet connection (128 kpbs minimum). Dialup connection yields lesser results.

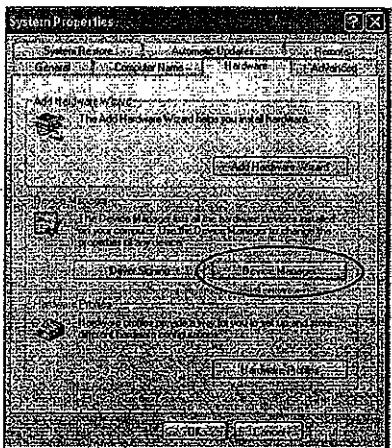
Keyhole Pro/EC users need a graphics card capable of running the Keyhole client.

The following steps can help you find out what type of graphics card you have and if it will run the Keyhole client.

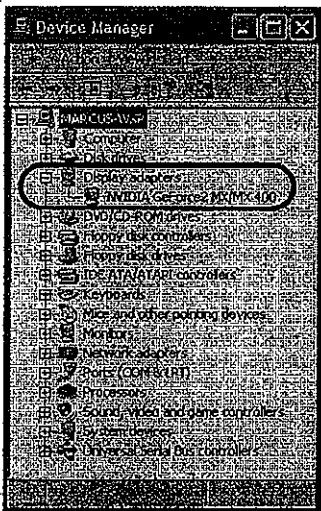
Note: The instructions that follow apply to the Windows XP operating system, but are similar for other version of Windows.

1. Open the Control Panel window by selecting it from the Start menu.
2. Double-click on the System icon in this window to display the System Properties dialog.

3. Click on the Device Manager button in the Hardware panel.



4. In the Device Manager window, double-click the Display Adaptors icon to list the graphics card(s) for your computer.



The make and model of your graphics card appears under the Display Adaptor icon.

Important: To see if your graphics card is supported by Keyhole, Inc. and to determine the appropriate 3D rendering software to use for your installation, see the Support section of the Keyhole Website, <http://www.keyhole.com/support>.

Getting Your License Key

Before installing Keyhole, you need to have your License Key at hand.

- If you have purchased a retail (physical) copy of the Keyhole software, the License Key (Passport ID) is located on the inside of the CD case.
- If you have purchased an electronic copy of Keyhole via the Internet, your License Key is displayed on the purchase confirmation page and sent to you via email.

Installing the Keyhole Software

Follow these steps to install the Keyhole client.

1. Double-click the setup file to start the installation.

If your copy of the Keyhole software is located on a CD, insert the CD into your computer's CD-ROM drive to automatically begin the installation. If the installation does not automatically run, navigate to the CD folder and double-click on the `Keyhole[version].exe` file.

If you downloaded your copy of the Keyhole software, navigate to the folder that contains the software download. Double-click on the file that contains Keyhole as the first part of the name, followed by the version you have downloaded (`Keyhole[version].exe`). For example, the Keyhole LT installer icon looks similar to the icon on the right.



2. Follow the on-screen instructions to complete the installation to your computer.
3. When installation completes, start the Keyhole software by clicking on the blue and white marble icon on your desktop or in your Start menu.

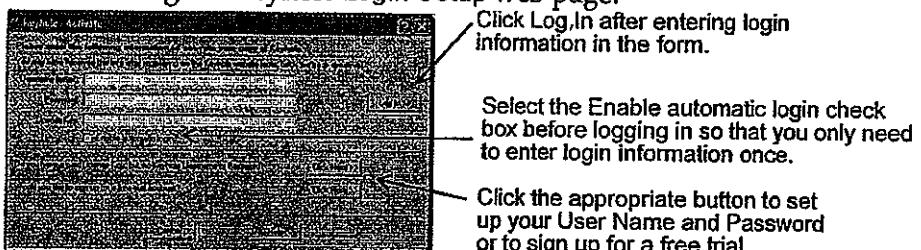
Note: Both the OpenGL-compatible version and the Direct X-compatible version of Keyhole are installed. OpenGL is set automatically as the default 3D graphics renderer. If the application does not work for you after following the steps below, try switching to the Direct X renderer by selecting Set DX as default renderer from the Programs -> Keyhole menu. For more information, see "[3D Rendering Software](#)" on page 114 of Keyhole Performance.

4. When the Keyhole Activation Screen appears, enter your **User Name**, **Password**, and **License Key** in the dialog box and click the **Log In** button.

Note: Fields are case sensitive.

Note: Keyhole PRO users: If you purchased your copy of the Keyhole application online, this information is automatically sent to you via email. If you purchased a retail (physical) copy of the software, follow the steps below to retrieve a user name and password.

- a. Enter your login information and click on the **Log In** button to set up an account using the Keyhole Login Setup web page.

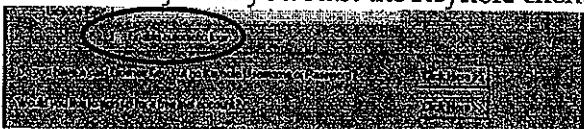


- b. Once you reach the web page, choose the option to set up your User Name and Password online using your License Key.

After you complete this step, a **Setup Completed** page displays your new User Name and Password *hint*. An email containing the User Name and full password is then sent to the email address you provided on the setup page.

- c. Return to the Keyhole activation dialog box and enter your new account information with the Passport ID, and click the **OK** button.

Tip: Consider checking the **Enable automatic login** check box at login. If you check this box, you will not have to re-enter your user name and password every time you start the Keyhole client.



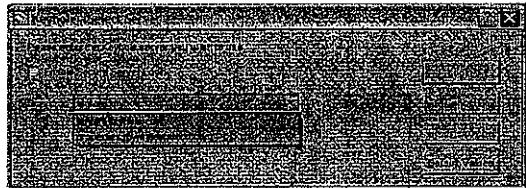
You are ready to fly!

Starting the Keyhole Client

After you have installed your registered copy of the Keyhole client, you will be prompted to log in each time you start the Keyhole viewer unless you have selected the **Enable automatic login** check box at some earlier time. You can enter your User

Name and Password each time you start the Keyhole client, or you can choose to have this information automatically entered for you each time you start the application.

In addition to a user login screen, a server login screen also appears.



You can use the Server menu to connect to a specific database that you want to view, such as a Keyhole Server that is running on a server inside your company. You might also need to specify a port number other than 80, or log in to a secure server. See your system administrator for this information.

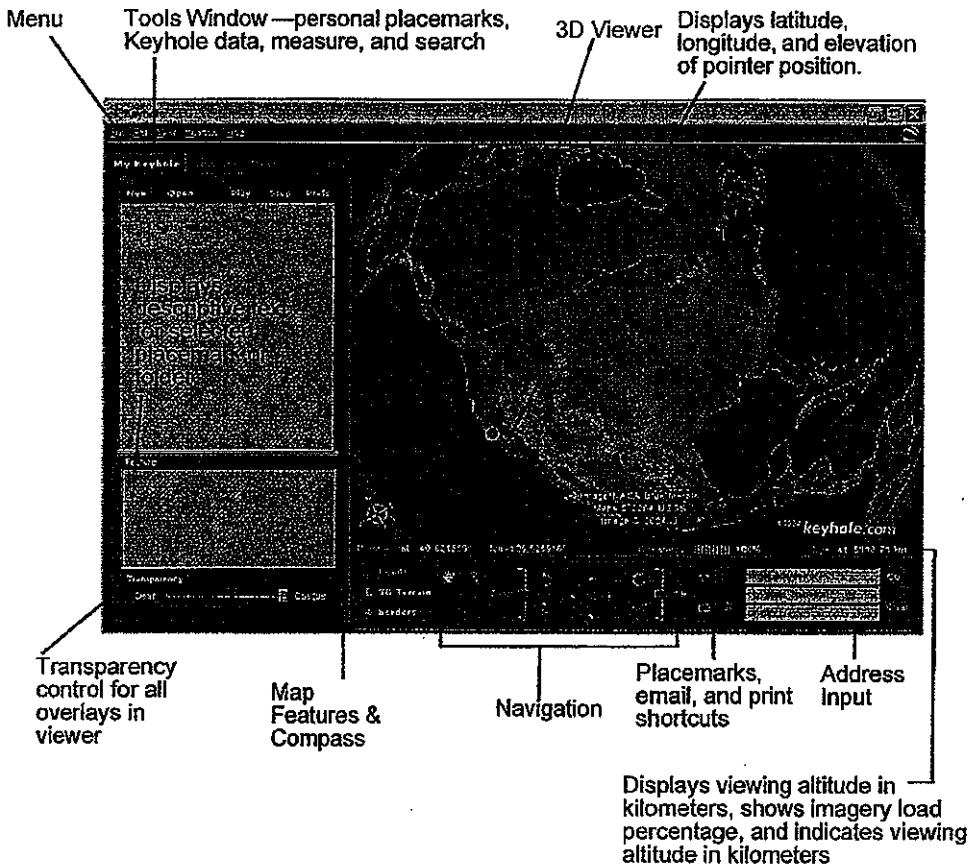
If you wish to sign into the same database each time you start the Keyhole client, first choose the desired server, and then select the Always login to this server check box. You will be automatically signed into the selected server in subsequent sessions of the Keyhole client. Should you want to log into a different server, simply select the Logout option under the File menu to log out of the current server. You can then use the Login option to log into a different server.

Click the Log In button to sign onto the database.

2

Keyhole Client Quickstart

The Keyhole interface consists of the following elements:



Menu

The following tables summarize the Keyhole client menu options and their features.

Table 1: File Menu

Item	Description
Log in/Log out	Use this item to log in or log out of the Keyhole client without shutting it down. With this feature, you can log into different servers without having to restart the Keyhole client. Keyhole NV users can use this option to log into either the Keyhole database or the Mars database without having to restart the Keyhole client.
Open	Opens any one of a number of supported files, such as KML, GeoTiff, Shape files, and other imagery and vector files.
New	Use this to create a new placemark, folder, image overlay, or network link.
Print	Print the current view, including data overlays, to any connected printer. This feature is described in "Printing" on page 87.
Save Image	You can save the viewer's current view as an image to your computer for later use.
Email View	Send the viewer's current view via email as an attached JPEG file, or as a Placemark. This feature is described in "Saving and Sharing Your Places and Folders" on page 60.
Data Importer	Use this option to import vector, imagery, or shape files with geo-referenced information embedded in them. See "Importing and Viewing GIS Data" on page 119 of Keyhole Premium Features for more information.
Exit	Exit the Keyhole application.

Table 2: Edit Menu

Item	Description
Preferences	Use the preferences to customize the appearance of the Keyhole application, enhance performance by clearing or adjusting memory and disk cache, and set the speed and timing for auto pilot and touring. Keyhole PRO users can also specify a WMS server for the map overview feature. Learn more about this in " Keyhole Performance " on page 113.
Copy View	Similar to the Save Image item under the File menu, this item copies the current imagery in the viewer to your computer's clipboard. You can paste this image in other applications that accept imagery data. See " Saving Keyhole Imagery to Your Computer " on page 108.

Table 3: View Menu

Item	Description
Full Screen	Use this option to switch the viewer to occupy the entire application window. Use the F11 key as a keyboard shortcut. In this mode, the menu is available, but the satellite windows and navigation panel are closed. Choose the option again to return to regular viewing mode (or press the F11 key again).
Aspect Ratio	Use this option to choose from a number of pre-set aspect ratios designed for different play back modes or print modes. The selected option resizes the Keyhole client for the best display for your intended purpose. For play back, you can choose <i>Computer</i> or <i>TV</i> . For print, you can choose from 4 aspect ratios for different paper sizes (see " Printing " on page 87 for more information). Once you choose an aspect ratio, you can always manually resize the Keyhole client.
Compass	Use this option to toggle the compass in the 3D viewer on or off.
Status Bar	Use this option to toggle the status bar at the bottom of the 3D viewer on or off.
Play Tour	Use this option or press F10 to start a tour of the selected items in the My Keyhole tab. See " Touring Places " on page 66 of <i>Using Keyhole Places</i> .

Table 4: Window Menu

Item	Description
Tools/Web/Tables/ Overview/ Movie Maker	Use the Window menu to turn on or off any of the peripheral windows in the Keyhole client. You can also drag the window to a different region of the Keyhole client workspace.

Table 5: Help Menu

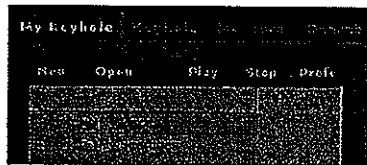
Item	Description
Contents	This option brings up the complete, on-line documentation for the Keyhole client. The documentation is fully searchable.
Support	This option links to the Keyhole Support web site.
About	This option displays detailed version and build information about your Keyhole client. It displays the current User ID and Passport ID used to log in to the Keyhole server. Finally, it displays useful diagnostic information about your computer, such as the type of graphics rendering used, your graphics card, and the maximum texture size, if known.

Viewer

The viewer displays the Keyhole 3D earth imagery, as well as any other activated data from the Keyhole Server technology and your own computer or network, such as roads, business listings, terrain, geographic features, or image overlays.

Tools Window—My Keyhole

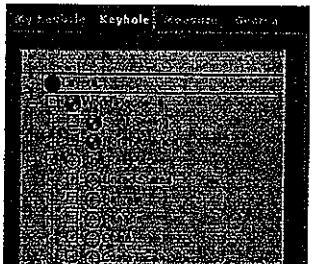
Use the My Keyhole tab in the Tools window to display your placemarks, overlays, and recent searches for the Keyhole client. You can double-click on any of the folders to expand their contents. You can create, edit, and sort your own folders, placemarks and image overlays. You can open other placemark information saved on your computer, on the network, or sent to you by another Keyhole user. See “[Using Keyhole Places](#)” on page 45.



You can also select any of the folder items in the My Keyhole tab and click on the Play button to tour the selected places. You can stop the tour at any time or adjust the touring speed as well.

Tools Window—Keyhole

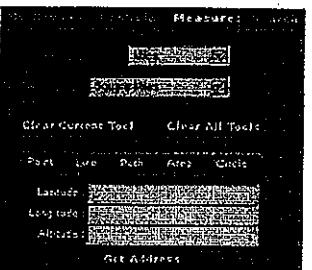
The Keyhole tab contains all the data served to your Keyhole client from the Keyhole Server technology. You can turn this data on or off depending upon what you want displayed in the viewer. You can expand the Layers folder to turn on items such as populated places; retail locations such as restaurants, ATM locations, or grocery stores; public transportation facilities; and even school districts.



Expand the World Places and High Res Places folders to view the myriad of interesting sites you can explore with the Keyhole client.

Tools Window—Measure

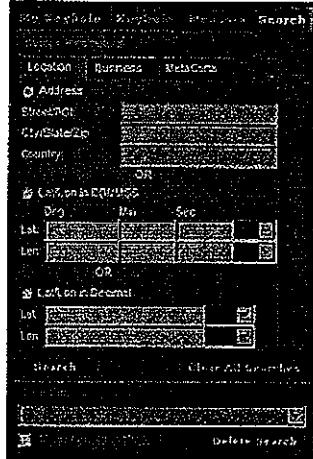
Use the measuring tools in the Keyhole client to find relevant geographic information for points, straight lines, and multi-line paths. Keyhole PRO/EC users can also measure selected regions and circles. You can view the latitude, longitude, and altitude for beginning and ending points and you can view the length of lines or paths. You can determine the perimeter and area of a selected region and set the unit of measure for length and area. You can also pick a point in the viewer and retrieve an address using reverse geocoding.



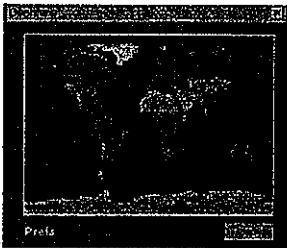
Tools Window—Search

The Search tab provides both location (address lookup) and business search features. Use the Business tab to find specific businesses within the vicinity of the area you are viewing. You can search by category or keyword. See “[Finding Business Listings](#)” on page 37 for more information.

You can also use the Location tab to search for locations by address, by street intersection, by region, and by entering geographic coordinates such as you might get from a GPS device. See “[Finding Addresses & Locations](#)” on page 33. Finally, if you have access to the MetaCarta web-based search features, you can view geographically related documents on the World Wide Web. See “[Using MetaCarta Text Search](#)” on page 38 in the online documentation.



Overview Map



The Overview window provides a different view of the data presented in the viewer. Using the overview map, you can easily determine the overall position of your current view even when the viewer is zoomed into a region you don't recognize. Click on the overview map to reposition the viewer to a different region.

For Keyhole Pro/EC users, the Overview window provides a means to explore GIS data provided from sources other than the Keyhole Server software. You can navigate through the Keyhole client viewing area, adjust the view to your liking, and use the Overview window to see the corresponding data provided by the outside service. See “[Using the Overview Map Feature](#)” on page 79 for more information.

Table View Window

The Table Window displays the attributes (internal data fields) for placemark, overlay, and search items in the My Places folder. To display the Table View window, select Table from the Window menu.

In addition, any vector data that you have imported will have its internal data fields available for browsing in the Table View window. The Table Window also displays a Time view that you can use to display time-based KML placemarks in a sequenced fashion. For more information, see ["Viewing Vector Data Fields"](#) on page 122 of Keyhole Premium Features in the online documentation.

Web Window

The Web Window provides an integrated web browser within the Keyhole client. To use the Web Window, select Web from the View window. The web window appears showing the Keyhole BBS website. You can navigate to various Keyhole placemarks on the BBS and click on them to fly to them within the Keyhole client viewer.

If any descriptions within placemarks contains links to web-based documents, clicking on the link produces the target page in the Web window if it is active. In this way, you can provide both web-based and Keyhole-based information display all within the Keyhole client.

Map Controls

Use the Map Controls area to display or hide the following data:

- 3D Terrain (height and shape data such as mountains or canyons)
- Roads
- Borders

In addition, the compass indicates the current orientation of the viewer, which defaults to north-up. As you rotate the view, the compass spins to indicate the current orientation.



Navigation

The navigation area consists of a set of buttons and sliders that you use to move closer to and farther from a view, turn left or right, move across the terrain in any direction, or tilt the view. You can also use the Hand icon directly over the view space to manually control your view, and the Arrow/Zoom icon to automatically zoom in or out by a set amount. Navigation is covered in more detail below in ["Navigating with Keyhole."](#)



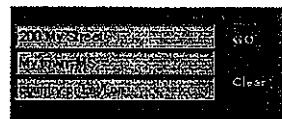
Dashboard Shortcuts

You can use the dashboard shortcuts to create new placemarks or folders, email a view, or print a view. For more information, see "[Using Keyhole Places](#)" on page 45.



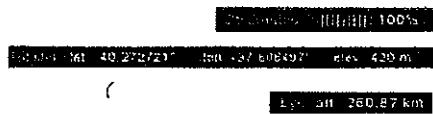
Address Input

Enter an address, a cross street intersection, or latitude and longitude coordinates to go directly to a specific destination. You can determine the level of detail that you want to see by providing more or less information in your searching, depending upon your desired results. See "[Finding Addresses & Locations](#)" on page 33.



User Interaction Feedback

The Keyhole client provides a number of feedback mechanisms to aid in interacting with the viewer imagery. For example, the Streaming status bar indicates when the Keyhole client is actively retrieving information streamed from the Keyhole Server database. The bar indicates the percentage of information retrieved. You can use this information to determine that the download is complete or that there is a problem connecting to the server.



The Pointer display indicates the exact position of the hand or pointer cursor in the viewer. As you move the cursor in the viewer, the latitude, longitude, and elevation fields update to indicate the position.

Note: The elevation field does not display until the eye altitude is sufficiently zoomed into the planet. This is necessary to obtain an accurate reading for the pointer elevation.

In addition, you can set the coordinates to be displayed in either decimal degree notation or in degrees, minutes, second notation. See "[Rendering](#)" on page 116 of [Keyhole Performance](#) for details.

The Eye display indicates the viewing altitude in kilometers or feet from ground level.

Navigating with Keyhole

You can navigate through the Keyhole viewer using three navigation techniques:

- [Mouse Navigation](#)
- [Keyhole Navigation Controls](#)
- [Keyboard Navigation Controls](#)

Mouse Navigation

If you are familiar with 3D computer games, navigating through the viewer with your mouse is like moving through a scene in a game. Even if you have little experience using your mouse in this fashion, it takes only a bit of practice to become comfortable moving around a view.

To get started navigating with your mouse, simply position the cursor in the middle of the viewer, click one of the buttons (right or left) and move the mouse and note what happens in the viewer. A *right-click + push* in the region zooms out from the view, while a *right-click + pull* zooms in on the view. The rest of this section describes how to achieve specific actions with your mouse.

The Keyhole client provides two navigation modes that determine how your mouse behaves when you click on a region in the viewer—the Hand icon mode and the Zoom/Pointer icon mode.

Using the Mouse in Hand Icon Mode

The Hand icon is the default mouse navigation mode when you start the Keyhole application.



When this icon is activated, the mouse pointer is a hand-shaped icon that you place over the viewer to move the scene. If you think of using the hand to “grab” the scene and drag it in the direction you want, using the hand icon is very intuitive.

[Table 6](#) describes all the ways you can use both the left and the right mouse buttons to affect the viewer action.

Table 6: Mouse Actions with Hand Icon Mode

Desired Effect	Mouse Button	Action
LEFT - Move or "drift" to the left of the scene (westward, in north/south orientation).	Left 	Press the button and move mouse to the right (►). Release the button when you reach the desired spot. If you want to drift continuously to the left, hold the button down and briefly move the mouse to the right (►) and release the button, as if you are "throwing" the scene. Click once in the viewer to stop drifting.
RIGHT - Move or "drift" to the right of the scene (eastward, in north/south orientation).	Left 	Press the button and move mouse to the left (◄). Release the button when you reach the desired spot. If you want to drift continuously to the right, hold the button down and briefly move the mouse to the left (◄) and release the button, as if you are "throwing" the scene. Click once in the viewer to stop drifting.
UP - Move or "drift" up in the scene (northward, in north/south orientation).	Left 	Press the button and move the mouse backward (▼). Release the button when you reach the desired spot. If you want to drift continuously up, hold the button down and briefly move the mouse back (▼) and release the button, as if you are "throwing" the scene. Click once in the viewer to stop drifting.
DOWN - Move or "drift" down in the scene (southward, in north/south orientation).	Left 	Press the button and move the mouse forward (▲). Release the button when you reach the desired spot. If you want to drift continuously down, hold the button down and briefly move the mouse up (▲) and release the button, as if you are "throwing" the scene. Click once in the viewer to stop drifting.
Zoom in or move closer to a scene.	Right 	Press the button and move the mouse backward or pull toward you (▼). Release the button when you reach the desired spot. If you want to zoom continuously in, hold the button down and briefly move the mouse back (▼) and release the button, as if you are "throwing" the scene. Click once in the viewer to stop motion. If your mouse has a scroll wheel, you can use the scroll wheel to zoom in by scrolling forward (toward you).

Desired Effect	Mouse Button	Action
Zoom out or move farther away from a scene.	Right 	Press the button and move the mouse forward or push away from you (▲). Release the button when you reach the desired spot. If you want to zoom continuously out, hold the button down and briefly move the mouse up (▲) and release the button, as if you are "throwing" the scene. Click once in the viewer to stop motion. If your mouse has a scroll wheel, you can use the scroll wheel to zoom out by scrolling backward (away from you).
Rotate earth clockwise	CTRL + Scroll	If your mouse has a scroll wheel, you can use it to rotate the earth clockwise by holding down the CTRL key and scrolling backward (▲) (away from you).
Rotate earth counter-clockwise	CTRL + Scroll	If your mouse has a scroll wheel, you can use it to rotate the earth clockwise by holding down the CTRL key and scrolling forward (▼) (toward you).
Tilt earth	Shift + Scroll	If your mouse has a scroll wheel, you can use it to tilt the earth by holding down the SHIFT key and scrolling forward (▼) (toward you) to tilt top-down and scrolling backward (▲) (away from you) to tilt toward horizon view.
Adjust transparency	CTRL + SHIFT + Scroll	If your mouse has a scroll wheel, you can use it to adjust the transparency of an overlay by holding down the SHIFT and CTRL keys and scrolling forward (▼) (toward you) to reduce transparency and scrolling backward (▲) (away from you) to increase the transparency of an overlay.

Using the Mouse in Zoom Icon Mode

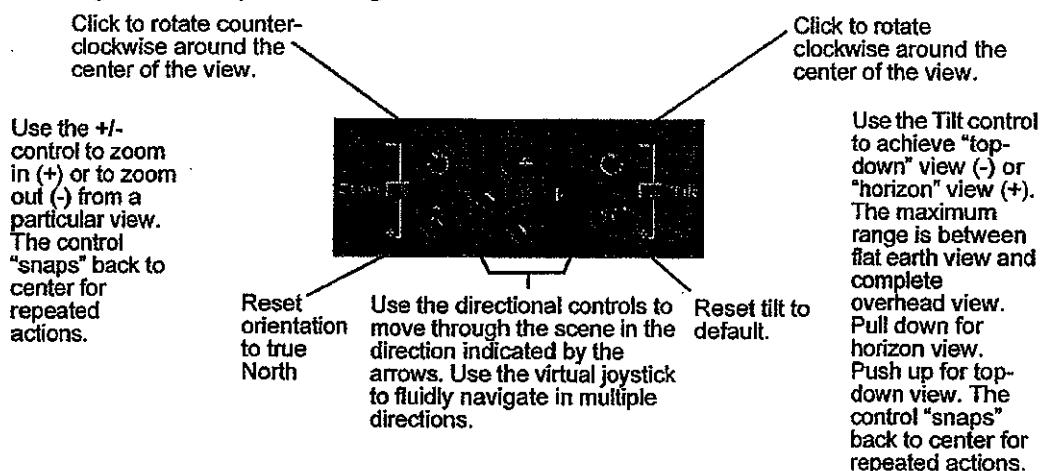
You can use the mouse in Zoom/Pointer icon mode if you want to zoom in or out from a scene by an automated distance. The actions are quite simple:

- To **zoom in**, left-click once on the spot you want to zoom in on. The viewer zooms in on the scene and eventually stops. Repeated clicks continue the zooming process. Holding the mouse button down and moving the mouse slightly also continues the zooming process.
- To **zoom out**, right-click once on the spot you want to zoom away from. The viewer zooms out from the scene and eventually stops. Repeated clicks continue the zooming process. Holding the mouse button down and moving the mouse slightly also continues the zooming process.

Keyhole Navigation Controls

The Keyhole navigation controls offer the same type of navigation action that you can achieve with mouse navigation. In addition, you can use the controls to tilt the view (perhaps for a perspective on terrain) or to rotate the viewer around the center. The following diagram shows the controls and explains their functions.

Figure 1: Keyhole Navigation Controls



Keyboard Navigation Controls

In addition to navigating by mouse or by using the Keyhole controls, you can also navigate in the Keyhole client by using the keyboard. The following tables list the various keyboard combinations that you can use to control navigation, window focus, and other events with the Keyhole client. This mode is most useful for laptop computer users where mouse-based navigation using a touch pad is awkward.

Window Focus

The keyboard controls whichever window is in focus with the mouse. For example, if your mouse is focused on (i.e., clicked on) any element in the My Keyhole tab, keystrokes apply to the elements in the My Keyhole tab. If the mouse is focused on the Keyhole client viewer, keystrokes apply to the viewer panel. To illustrate this, if the window focus is on the My Keyhole tab, the down arrow will move through the folders in the list. Alternatively, if the window focus is on the viewer, the down arrow will move the view in the direction of the arrow.

The only exception to this behavior is keystrokes that are reserved for menu-level control of the application, such as Ctrl+P for print and Alt+V for full-screen mode.

Application Level Control

The following keystrokes control the Keyhole client application regardless of the window in focus.

Table 7: Application Control Keystrokes

Command	Keystroke	Effect
File menu	Alt+F	Opens the File menu
Edit menu	Alt+E	Opens the Edit menu
View menu	Alt+V	Opens the View menu
Window menu	Alt+W	Opens the Window menu
Help menu	Alt+H	Opens the Help menu
Open File	Ctrl+O	Produces the file open dialog, allowing you to open all supported Keyhole file types
New dialog	Ctrl+N	Produces the New dialog, from which you can create new placemarks, folders, image overlays, or network links
Print	Ctrl+P	Produces print dialog
Save Image	Ctrl+S	Saves the current view as an image file to your computer
Email view	Ctrl+E	E-mails the current view as either a placemark or an image file.
Toggle Full-screen view	F11	Toggles the Keyhole client between full-screen view and windowed view